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United States Patent [19]

Schwartz

[11] Patent Number: 5,916,242

[45] Date of Patent: Jun. 29, 1999

[54] APPARATUS FOR RAPID COOLING OF THE BRAIN AND METHOD OF PERFORMING SAME

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[21] Appl. No.: 08/816,255

[22] Filed: Mar. 13, 1997

Related U.S. Application Data

[60] Provisional application No. 60/030,030, Nov. 4, 1996.

[51] Int. Cl.[6] A61F 7/12

[52] U.S. Cl. 607/113

[58] Field of Search 607/104, 108–112, 607/113, 114; 128/207.14; 604/43.54

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[57] ABSTRACT

Rather than cooling the brain by the relatively slow heat conduction through the low heat conductivity of the bony skull and hair covering the head, the present invention teaches the use of a light weight, easily applied neck encircling collar in firm contact with the soft tissue of the neck, and particularly in good thermal contact with the carotid arteries traversing the neck. A coolant flowing through channels embedded in the collar rapidly cools the blood flowing through the carotid arteries which branch into blood vessels throughout the brain providing vascular access and attendant rapid internal cooling throughout the brain including its deepest recesses. Placing the collar on the patient's neck is easily and quickly accomplished simultaneously with other emergency medical techniques, such as CPR, which maintain the patient's heart and lung activity. The collar of the invention contains no metallic parts; the collar, including the coolant channel, may be non-metallized fabric or plastic. This allows X-ray, Cat scan, or MRI procedures to be used while the collar is in place without impairing the effectiveness of the procedure. In a second embodiment, a conventional endotracheal tube, inserted into the trachea is provided with an toroidal bladder surrounding the tube. The toroidal bladder is positioned at the back of the oral cavity, and a coolant flowing through the toroid cools blood vessels in the oral cavity which traverse the brain, providing cooling of the brain tissue.

5 Claims, 3 Drawing Sheets